



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

28/31

JUN 23 1989

DOCKET NO: 40-7580
LICENSEE: Fansteel, Inc.
FACILITY: Muskogee Plant
Muskogee, Oklahoma
SUBJECT: SAFETY EVALUATION REPORT, AMENDMENT APPLICATION DATED JUNE 21, 1989, RE ALTERNATIVE METHOD OF SOLIDS REMOVAL FROM PLANT WASTE SLURRY

Background

On June 18, 1989, Fansteel identified severe leakage from retention Pond 3 and subsequently, discontinued its use. This precludes Fansteel from clarifying in Pond 3 the diluted waste slurry generated by the acid dissolution of feed materials containing uranium and thorium compounds.

In the subject application, Fansteel proposes an alternative method of removing solids from the diluted slurry in place of clarification in Pond 3.

Discussion

In the existing license, Fansteel is authorized to process tin slags and natural and beneficiated ore concentrates for the recovery of columbium and tantalum compounds. The feed materials are milled and dissolved in aqueous hydrofluoric acid to produce fluoride compounds. The undissolved solids containing the uranium and thorium compounds are diluted with water to produce a slurry and pumped to Pond 3. The solids are allowed to settle and the supernatant is transferred to additional ponds for lime neutralization and further treatment.

As an alternative to clarification in Pond 3, Fansteel proposes to remove the solids from the diluted slurry using a filter press or some other mechanical separation device prior to the neutralization process. The wet solids collected by the filtration or separation process will be placed in poly-lined drums for onsite storage. In the letter dated June 21, 1989, Fansteel states that this alternative process will reduce the facility's production capacity by 40 percent while processing the remaining supernatant from Pond 3.

The staff has reviewed the application and concludes that the proposed alternative will not increase the production rate of solid wastes containing uranium and thorium but might require additional handling of these materials. Based on the low concentrations of the radioactive constituents in the feed materials and the wet condition of the solids, the staff believes that personnel exposures to radiation and airborne radioactive materials will not be significantly increased.



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Conclusion/Recommendation

Based on the discussion, the staff concludes that the proposed activity will not adversely affect the protection provided for the health and safety of Fansteel personnel and the public or the environment. The staff recommends approval of the alternative method of waste slurry processing as described in the application.

The Region IV Principle Inspector has no objection to amending the license.

W. Scott Pennington

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